What is claimed is:

1. An object formed using layered manufacturing comprising:

at least one surface;

a plurality of layers bonded together defining inter-layer regions therebetween, said inter-layer regions intersecting said surface; and

a plurality of convex regions where said inter-layer regions intersect said surface.

2. An object formed using layered manufacturing as in claim 1, wherein said layers have intra-layer regions disposed laterally within said layers, wherein said intra-layer regions intersect said surface, further comprising a plurality of concave regions where said intra-layer regions intersect said surface.

3. A object formed using layered manufacturing as in claim 2, wherein said inter-layer regions and intra-layer regions together define at least half of said surface.

4. A method for making on object having at least one surface comprising the steps of:

forming a plurality of part layers such that inter-layer regions are defined therebetween, such that said inter-layer regions intersect said surface; and

creating convex regions where said inter-layer regions intersect said surface.

5. A method for making an object as in claim 4, wherein said part layers have an intra-layer region, further comprising creating concave regions where said intra-layer regions intersect said surface.

6. A method for making an object as in claim 4, wherein said forming step uses a layered manufacturing method to deposit a first flowable material to form said part layer; and

said creating step uses said layered manufacturing method to deposit a second flowable material to form a mold layer prior to depositing said first flowable material in said forming step, such that said second material acts mold layer contains said first flowable material.

7. A method for making an object as in claim 6, further comprising hardening said first flowable material.

8. A method for making an object as in claim 7, further comprising removing said second material.

9. A method for making an object of a first material, said object having at least one surface comprising the steps of:

a) forming a second material layer formed of a second material up to at least one boundary corresponding to said object surface;

b) forming a first material layer formed of said first material adjacent to said boundary and adjacent to said second material layer, wherein said first material is formed in a flowable state, such that said first material layer forms an impression along said boundary of said second material layer;

c) repeating steps a) and b) a plurality of times, sufficient to form stacks of said first material layers adjacent to stacks of a plurality of said second material layers; and

d) removing said stacks of second material layers from said object surface.

10. A method for making an object as in claim 9, wherein said first material forming step uses a different material than said second material forming step.

11. A method for making an object as in claim 9, wherein said second material forming step forms second material layers having external convex edges and

said first material forming step forms first material layers having external concave edge impressions adjacent to said second material layer convex edges.

12. A method for making an object as in claim 9, wherein said first and second material forming steps form at least one interior surface and at least one exterior surface.

13. A method for making an object as in claim 9, wherein said first and second layers are formed using layered manufacturing methods selected from the group of methods consisting of fused deposition techniques, multi-phase jet solidification techniques, and laser-engineered net shaping techniques.

14. A method for making an object as in claim 9, wherein said first layer forming step includes depositing said first material in at least one substantially contiguous bead having a diameter and a length.

15. A method for making an object as in claim 9, wherein said first and second layer forming steps include forming a plurality of substantially circular overlapping material formations.

16. A method for making an object as in claim 9, wherein said first and second layer forming steps include fusing a previously deposited material.

17. A method for making an object as in claim 9, wherein said first material forming step includes depositing said first material in a flowable state, wherein said second material forming step includes depositing said second material in a flowable state.

18. An object formed from a plurality of stacked layers of a first material bonded together, wherein said stacked layers have a top lateral surface, a bottom lateral surface, a center plane disposed between said top and bottom layer lateral

surfaces, and at least one layer side face, wherein said object has at least one side surface formed from said layer side faces, wherein said side faces have a concavity near said center plane.

19. An object formed from a plurality of stacked layers as in claim 18, wherein said layers have a thickness and said concavity has a radius of curvature at least one-fourth (1/4) of said layer thickness.

20. An object formed from a plurality of stacked layers as in claim 18, wherein said layers have a thickness and said concavity has a radius of curvature at least one-third (1/3) of said layer thickness.

21. An object formed from a plurality of stacked layers as in claim 20, wherein said stacked layer top and bottom surfaces together form convexities at said side surfaces.

22. A method for making a part of a first material, the part having a cavity with a first volume and a first structure disposed over the cavity, the method comprising the steps of:

supporting the first structure during the building of the first structure by building a second structure of a second material having a second volume within the cavity to support the first structure; and

building the first structure over the second structure,

wherein the second structure building step forms said second structure second volume being substantially less then said cavity volume.

23. A method for making a part as in claim 22, wherein the second structure building step forms the second structure volume having less than about twenty percent (20%) of the cavity volume.

24. A method for making a part as in claim 22, wherein the second structure building step forms the second structure volume having less than about forty percent (40%) of the cavity volume.

25. A method for making a part as in claim 22, wherein the second structure building step forms the second structure volume having less than about fifty percent (50%) of the cavity volume.

26. A method for making a part as in claim 22, wherein the second material building step uses said second material different from said first material.

27. A method for making a part as in claim 22, wherein the first structure building step includes forming layers of the first material and the second structure building step includes forming layers of the second material.

28. A method for making a part as in claim 27, wherein said second structure building step forms said second structure having a local width and a local height and at least one side face having a local slope defined by the change in local height per the change in local width, wherein said local slope is less than about ten (10).

29. A method for making a part as in claim 27, wherein said second structure building step forms said second structure having a local width and a local height and at least one side face having a local slope defined by the change in local height per the change in local width, wherein said local slope is less than about two (2).

30. A method for making a part as in claim 27, wherein said second structure building step forms said second structure having at least one side face having a deviation from vertical of at least twenty degrees (20°).

31. A method for making a part as in claim 27, wherein said second structure building step forms said second structure having at least one side face having a deviation from vertical of at least forty degrees (40°).

32. A method for making a part as in claim 27, wherein the second structure building step forms the second structure of layers formed of beads having a width, a length, and a height, wherein at least a portion of the second structure has a sloping side face having a plurality of indented layers indented between about one-half (1/2) a bead width and one-tenth (1/10) a bead width.

33. A method for making a part as in claim 22, wherein said cavity has a floor and said second structure forming step include building a column having a top portion and a middle portion, wherein the top portion is built wider than the middle portion.

34. A method for making a part as in claim 22, wherein said cavity has a floor, and at least one side wall forming a top corner where said side wall joins said ceiling, wherein said second structure building step includes building a corner support piece at said corner to support said ceiling from said side wall

35. A method for making a part as in claim 22, wherein said corner support piece is bonded to said ceiling near said corner and to said wall near said corner.

36. A program storage device readable by a machine tangibly embodying a program of instruction executable by the machine to perform method steps for improving layer side surfaces of layer areas to be filled by layered manufacturing, the method steps comprising:

obtaining first curve data representing at least one layer area to be filled with a first material; and

generating second curve data representing a second layer area to be filled with a second material, such that said second layer area side surface abuts said first layer area side surface over at least a portion of said first curve.

37. A program storage device as in claim 36, wherein said obtaining and generating steps are executed at least once for each of a plurality of stacked layers for which said layer side surface improving is desired.

38. A program storage device readable by a machine tangibly embodying a program of instruction executable by the machine to perform method steps for providing support underneath material layer areas to be filled by layered manufacturing, the layer areas including first material areas to be filled with a first material, the method steps comprising:

obtaining a first data set having a plurality of first layer data sets representing said layer areas to be filled by layered manufacturing; and

generating a second data set having a plurality of second layer data sets representing support layer areas to be filled by layered manufacturing,

wherein said first layer data sets define unsupported structures defining void volumes underneath said unsupported structures, wherein said second layer data sets define support structures having a support structure volume and supporting said unsupported structure,

wherein said support structure volumes are substantially less than said void volumes.

39. A program storage device as in claim 38, wherein said generating step includes:

(a) selecting a pair of layers having an upper layer and an immediately lower layer;

(b) reducing the area of said pair upper area by an increment;

(c) determining any portion of said upper layer unsupported by said lower layer;

(d) creating a new support area for said pair lower layer;

(e) adding said new support area to said lower layer; and

(f) repeating steps (a) through (e) for a plurality of said layer pairs by setting said pair lower layer to be said pair upper layer in the next iteration.

40. A program storage device readable by a machine tangibly embodying a program of instruction executable by the machine to perform method steps for providing support underneath layer areas to be filled by layered manufacturing, the layer areas including first material areas to be filled with a first material and second material areas to be filled with a second material, the method steps comprising:

obtaining a pair of layer area data sets having a first upper layer data set representing said first upper layer area, and a first lower layer data set representing a lower layer area to be filled with said first material;

generating a second upper layer data set representing a second upper layer area which is a subset of said first upper layer area and has an area less than that of said second

obtaining first curve data representing at least one layer area to be filled with a first material

obtaining first curve data representing at least one layer area to be filled with a first material; and

generating second curve data representing a second layer area underneath said first layer area to be filled with a second material, such that said second layer area is less than said first layer.